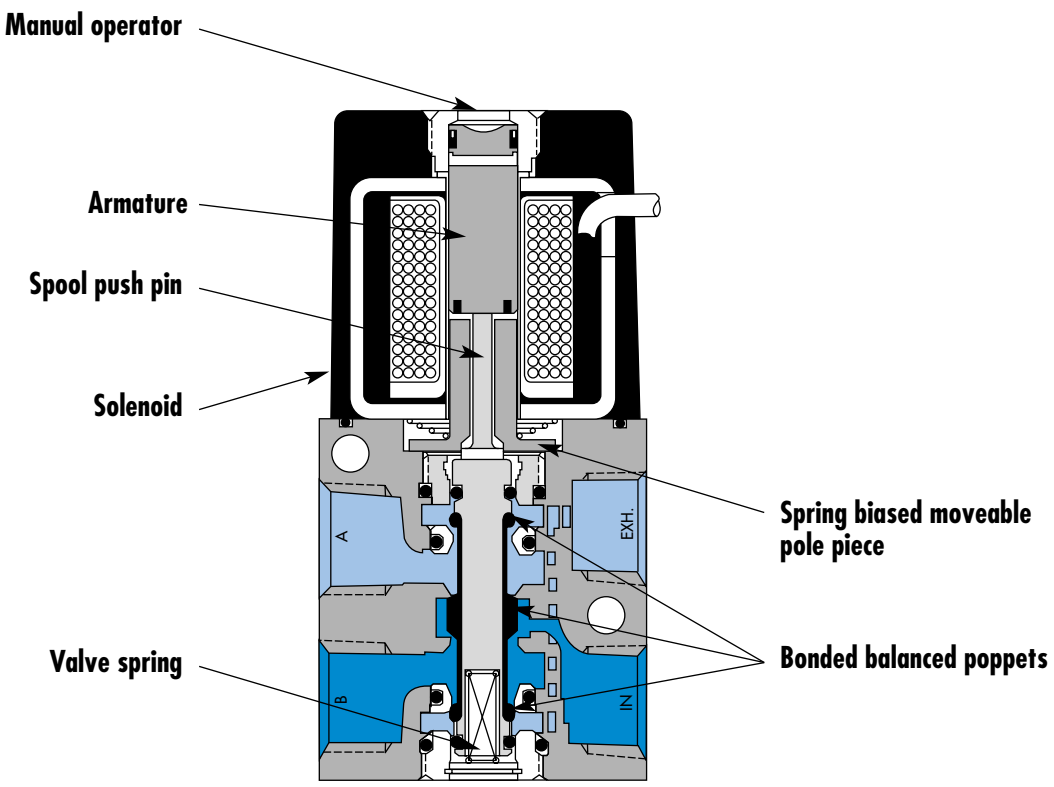
Circuit bar mounting

non plug-in with or without F. C.	non plug-in with Pr. Reg.	non plug-in with Pr. Reg. and F. C.	plug-in	plug-in with side Pr. Reg.	plug-in with sandwich Pr. Reg.	plug-in with F. C.	plug-in with Pr. Reg. and F. C.

plug-in with integral terminal strip	plug-in with integral terminal strip and side Pr. Reg.	plug-in with integral terminal strip and sandwich Pr. Reg.	plug-in with integral terminal strip with F. C.	plug-in with integral terminal strip with Pr. Reg. and F. C.	



SERIES FEATURES

- Patented MACSOLENOID® for fastest possible response times.
- Extremely high cycle rate capability.
- Rated for lubricated or non-lubricated service.
- Various solenoid enclosures and plug-in connectors.
- Low wattage DC solenoids - down to 1.8 watts.

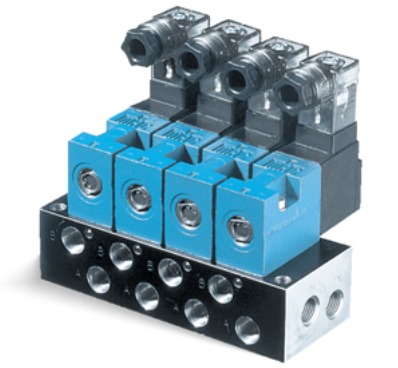
MAC

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	non plug-in with or without F. C.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

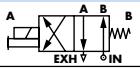
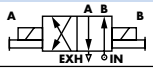


Reset

HOW TO ORDER

45A-xxx-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

Single operator	Double operator (Minimum DC wattage 5,4W)
	
○ 45A-L00-D*XXX-XXX*	○ 45A-N00-D*XXX-XXX*

SOLENOID OPERATOR ➤ D *XX X- X XX**

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

HOW TO ORDER CIRCUIT BAR** (WITHOUT FLOW CONTROLS)

EBM45A-xxxx-xx

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	21	○ EBM45A-001C-*XX*	○ EBM45A-002C-*XX*
M5	21	○ EBM45A-001D-*XX*	○ EBM45A-002D-*XX*

HOW TO ORDER CIRCUIT BAR** (WITH FLOW CONTROLS)

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	26	○ EBM45A-015C-*XX*	○ EBM45A-016C-*XX*
M5	26	○ EBM45A-015D-*XX*	○ EBM45A-016D-*XX*
1/8" BSPP	40	○ EBM45A-025C-*XX*	○ EBM45A-026C-*XX*
M5	40	○ EBM45A-025D-*XX*	○ EBM45A-026D-*XX*

Number of stations (03=3 stations) ☐

** Other options available Consult factory.

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).

Consult "Precautions" before use, installation or service of MAC Valves.

Menu

MAC

Series 45

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

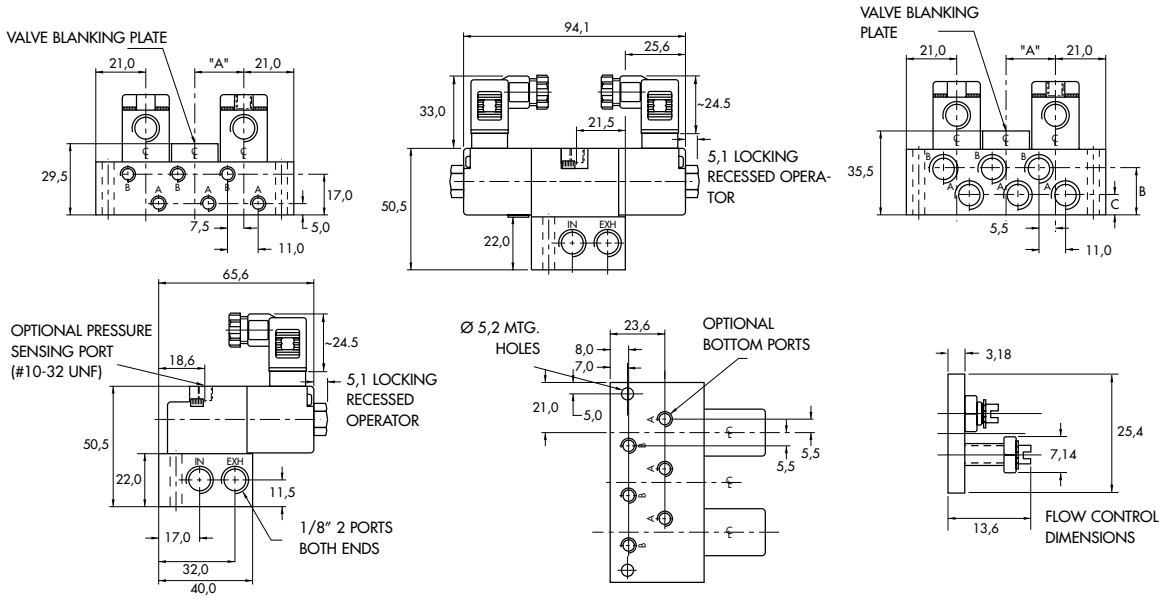
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



SPACING SIZE	A
STANDARD	21.0
PER JB	26.0
GAGES	40.0

PORT SIZE	B	C
1/8"	20.0	8.0
M5	22.0	6.0

Consult "Precautions" before use, installation or service of MAC Valves.

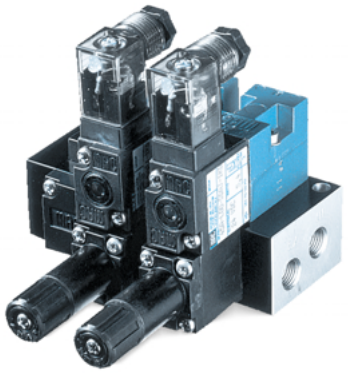
MAC

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	non plug-in with Pr. Reg.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

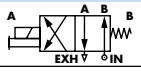


Reset

HOW TO ORDER

45A-xxx-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

	Single operator	Double operator (Minimum DC wattage 5,4W)
		
Valve w/o gage port	○ 45A-L00-D*XXX-XXX*	○ 45A-N00-D*XXX-XXX*
Valve w/ gage port	○ 45A-M00-D*XXX-XXX*	○ 45A-P00-D*XXX-XXX*

SOLENOID OPERATOR ➤ D XX X- X XX*

XX	Voltage
○ AA	120/60, 110/50
○ AB	240/60, 220/50
○ AC	24/60, 24/50
○ FB	24VDC (1.8 W)
○ DA	24VDC (5.4 W)
○ DF	24VDC (12.7 W)
○ xx	Other Options

X	Wire length
○ A	45 cm (Flying leads)
○ J	Connector
○ x	Other Options

X	Manual operator
○ 1	Non-locking Recessed
○ 2	Locking Recessed
○ x	Other Options

XX	Electrical connection
○ KA	Square connector
○ KD	Square connector with light
○ BA	Flying leads
○ xx	Other Options

EBM45A-xxxx-xx

HOW TO ORDER CIRCUIT BAR WITH PRESSURE REGULATORS (ORDER REGULATORS SEPARATELY) **

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	21 (w/o gage)	○ EBM45A-003C-*XX*	○ EBM45A-004C-*XX*
M5	21 (w/o gage)	○ EBM45A-003D-*XX*	○ EBM45A-004D-*XX*
1/8" BSPP	40 (w/ gage)	○ EBM45A-023C-*XX*	○ EBM45A-024C-*XX*
M5	40 (w/ gage)	○ EBM45A-023D-*XX*	○ EBM45A-024D-*XX*

Number of stations (03=3 stations) ☐

** Other options available Consult factory.

Note : ☐ clic for valves and regulators mounted to circuit bar at the factory (add - 9 to the model number). gage not supplied w/circuit bar.

Pressure regulators :
35A-00M (Adjusting knob)
35A-00L (Slotted stem)
35A-00U (Locking stem)

MAC

Series 45

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

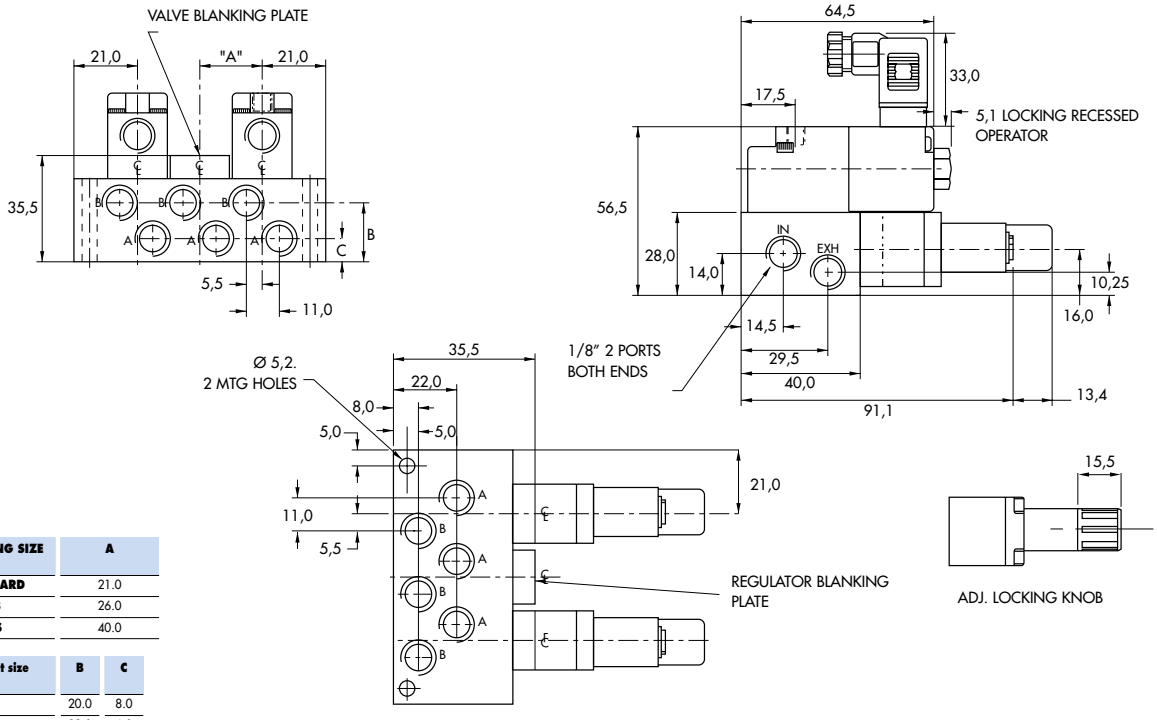
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



SPACING SIZE	A
STANDARD	21.0
PER JB	26.0
GAGES	40.0

Port size	B	C
1/8"	20.0	8.0
M5	22.0	6.0

Consult "Precautions" before use, installation or service of MAC Valves.

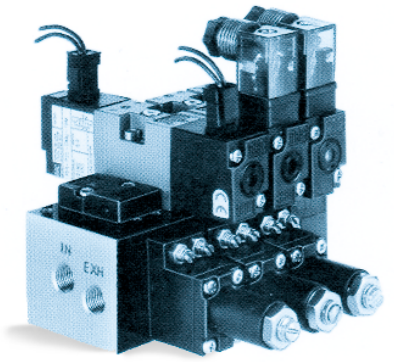
MAC

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	non plug-in with Pr. Reg. and F. C.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

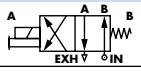


Reset

HOW TO ORDER

45A-xxx-Dxxx-xxx

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING

	Single operator	Double operator (Minimum DC wattage 5,4W)
		
Valve w/o gage port	○ 45A-L00-D*xxx-xxx*	○ 45A-N00-D*xxx-xxx*
Valve w/ gage port	○ 45A-M00-D*xxx-xxx*	○ 45A-P00-D*xxx-xxx*

SOLENOID OPERATOR ➤ D *XX X- X XX**

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Wire length
○ *A*	45 cm (Flying leads)
○ *J*	Connector
○ *x*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

XX	Electrical connection
○ *KA*	Square connector
○ *KD*	Square connector with light
○ *BA*	Flying leads
○ *xx*	Other Options

EBM45A-xxxx-xx

HOW TO ORDER CIRCUIT BAR WITH PRESSURE REGULATORS AND FLOW CONTROLS (ORDER REGULATOR AND FLOW CONTROL SEPARATELY) **

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	21 (w/o gage)	○ EBM45A-007C-*xx*	○ EBM45A-008C-*xx*
M5	21 (w/o gage)	○ EBM45A-007D-*xx*	○ EBM45A-008D-*xx*
1/8" BSPP	40 (w/ gage)	○ EBM45A-027C-*xx*	○ EBM45A-028C-*xx*
M5	40 (w/ gage)	○ EBM45A-027D-*xx*	○ EBM45A-028D-*xx*

Number of stations (03=3 stations) ☐

** Other options available Consult factory.

Note : ☐clic for valves, regulators and flow controls mounted to circuit bar at the factory (add - 9 to the model number).
gage not supplied w/circuit bar

Pressure regulators and flow controls:
45A-001 (Slotted stem)
45A-002 (Adjusting knob)
45A-003 (Locking stem)

Series **45**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

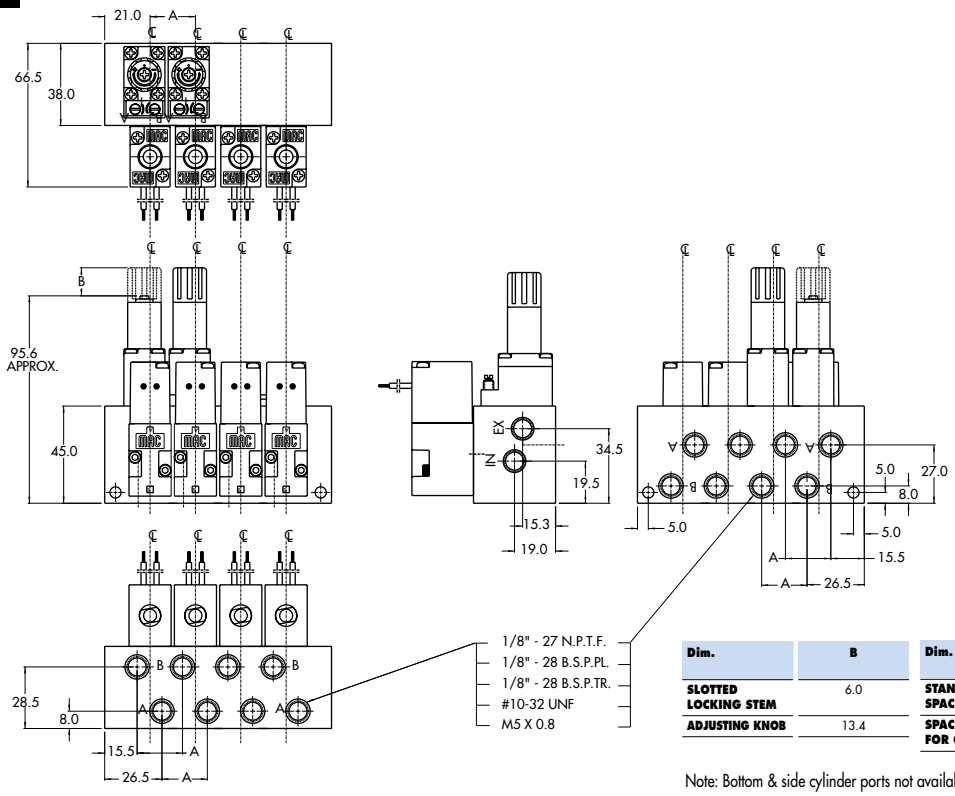
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



Dim.	B	Dim.	A
SLOTTED LOCKING STEM	6.0	STANDARD SPACING	21.0
ADJUSTING KNOB	13.4	SPACING FOR GAUGES	40.0

Note: Bottom & side cylinder ports not available on the same station

MAC

Series **45**

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	plug-in

OPERATIONAL BENEFITS

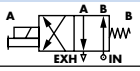
1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

Reset

HOW TO ORDER

45A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING "PLUG-IN"

Single operator	Double operator (Minimum DC wattage 5,4W)
	
○ 45A-L00-D*xx*J-*x*FM	○ 45A-N00-D*xx*J-*x*FM

SOLENOID OPERATOR ➤ D *xx* J- *x* FM *

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR**

ECD45A-xxxx-xx-xx

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	21	○ ECD45A-001C-A0-*xx*	○ ECD45A-002C-A0-*xx*
M5	21	○ ECD45A-001D-A0-*xx*	○ ECD45A-002D-A0-*xx*
1/8" BSPP	30	○ ECD45A-031C-C0-*xx*	○ ECD45A-032C-C0-*xx*
M5	30	○ ECD45A-031D-C0-*xx*	○ ECD45A-032D-C0-*xx*

Number of stations (03=3 stations) ☐
Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).
for multi-pin connector (9, 15 or 25).

- ○ A0 = without light
- ○ AA = with light (120V)
- ○ AB = with light (240V)
- ○ AD = with light (24V)
- ○ C0 = terminal strip
- ○ CA = terminal w/light (120V)
- ○ CB = terminal w/light (240V)
- ○ CD = terminal w/light (24V)

OPTIONS

ECD45A-002A-A0-*xx*

- ☐ clic for double operator valve (replace by 8) (Bottom cylinder ports).

Consult "Precautions"before use, installation or service of MAC Valves.

Menu

Series **45**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

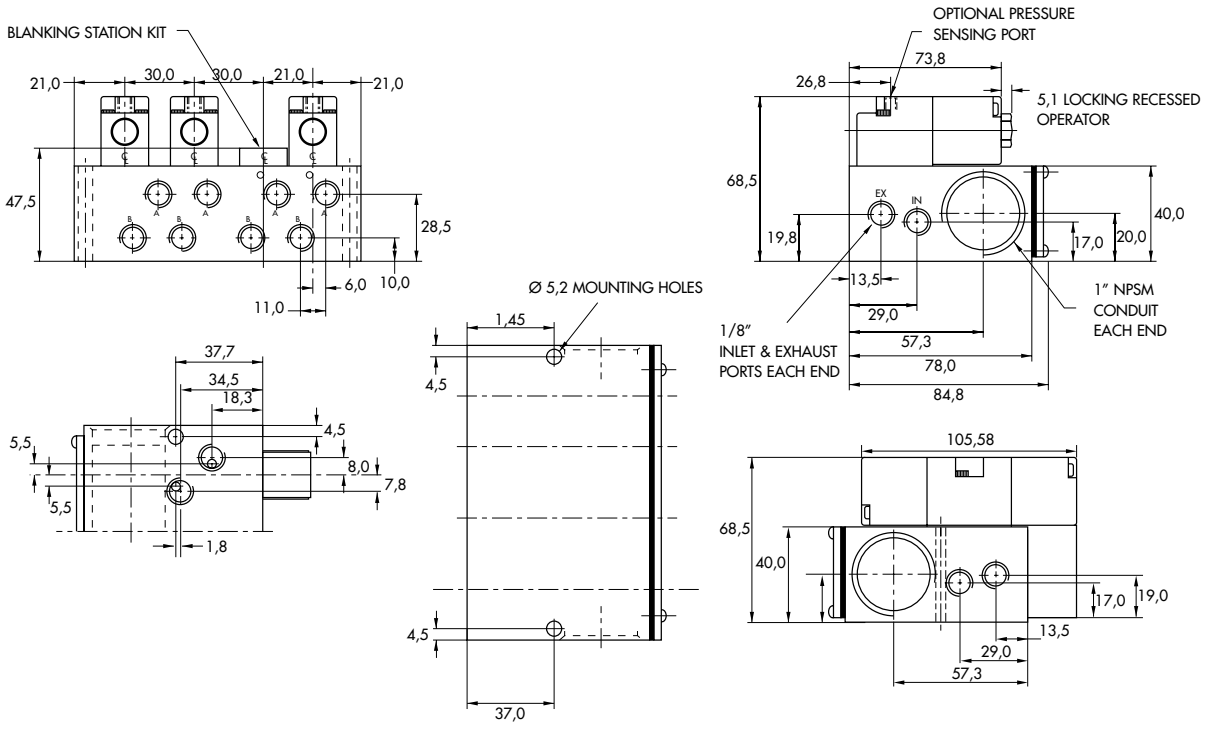
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



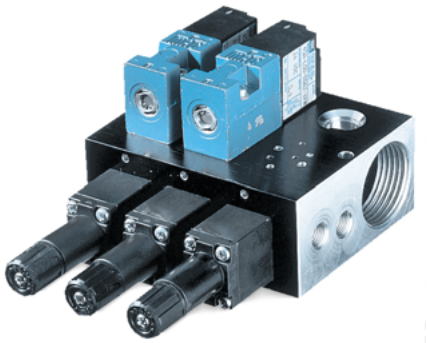
MAC

Series **45**

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	plug-in with side Pr. Reg.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.



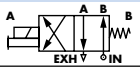
Reset

HOW TO ORDER

45A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR "PLUG-IN" CIRCUIT BAR

Single operator



○ 45A-L00-D*XX*J-*x*FM	Valve w/o gage port
○ 45A-M00-D*XX*J-*x*FM	Valve w/ gage port

SOLENOID OPERATOR ➤ D ***XX*** J- ***X*** FM*

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

ECD45A-xxxx-xx-xx

HOW TO ORDER CIRCUIT BAR WITH PRESSURE REGULATORS (TO BE ORDERED SEPARATELY) **

Port size	Spacing mm	Bottom cylinder ports
1/8" BSPP	21	○ ECD45A-004C-A0-*xx*
M5	21	○ ECD45A-004D-A0-*xx*
1/8" BSPP	30	○ ECD45A-034C-C0-*xx*
M5	30	○ ECD45A-034D-C0-*xx*
1/8" BSPP	40	○ ECD45A-024C-A0-*xx*
M5	40	○ ECD45A-024D-A0-*xx*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves and regulators mounted to circuit bar at the factory (add - 9 to the model number).
for multi-pin connector (9, 15 or 25).
minimum spacing for terminal strips is 30 mm.
use 40 mm spacing for gages.

** Pressure Regulators :
35A-00M (Adjusting knob)
35A-00L (Slotted stem)
35A-00U (Locking stem)

- ○ A0 = without light
- ○ AA = with light (120V)
- ○ AB = with light (240V)
- ○ AD = with light (24V)
- ○ C0 = terminal strip
- ○ CA = terminal w/light (120V)
- ○ CB = terminal w/light (240V)
- ○ CD = terminal w/light (24V)

Consult "Precautions" before use, installation or service of MAC Valves.

Menu

Series **45**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

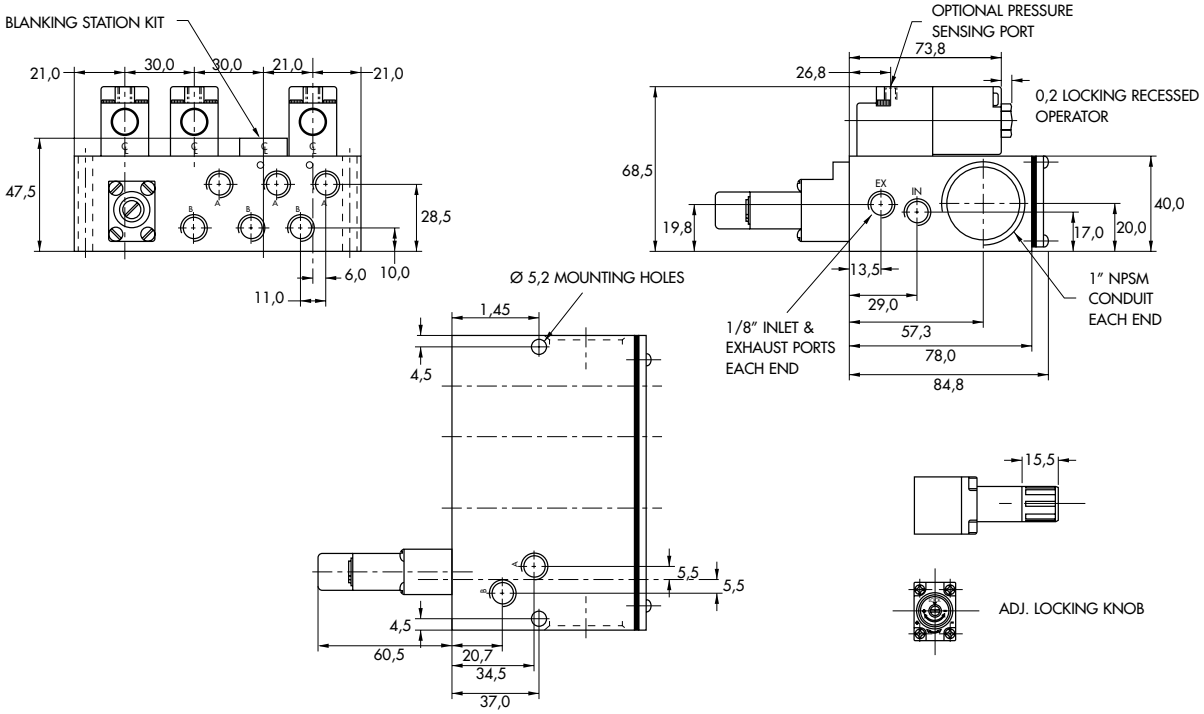
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



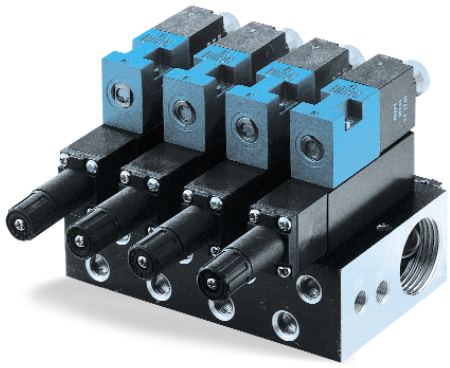
MAC

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	plug-in with sandwich Pr. Reg.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.



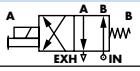
Reset

HOW TO ORDER

45A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING "PLUG-IN"

Single operator



○ 45A-L00-D*XX*J-*x*FM	Valve w/o gage port
○ 45A-M00-D*XX*J-*x*FM	Valve w/ gage port

SOLENOID OPERATOR ➤ D *XX* J- *X* FM*

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

ECD45A-xxxx-xx-xx

HOW TO ORDER "PLUG-IN" CIRCUIT BAR WITH SANDWICH PRESSURE REGULATORS (TO BE ORDERED SEPARATELY) **

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	21	○ ECD45A-001C-A0-*xx*	○ ECD45A-002C-A0-*xx*
M5	21	○ ECD45A-001D-A0-*xx*	○ ECD45A-002D-A0-*xx*
1/8" BSPP	30	○ ECD45A-031C-C0-*xx*	○ ECD45A-032C-C0-*xx*
M5	30	○ ECD45A-031D-C0-*xx*	○ ECD45A-032D-C0-*xx*
1/8" BSPP	40	○ ECD45A-021C-A0-*xx*	○ ECD45A-022C-A0-*xx*
M5	40	○ ECD45A-021D-A0-*xx*	○ ECD45A-022D-A0-*xx*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves and regulators mounted to circuit bar at the factory, add - 9 to the model number.
for multi-pin connector (9, 15 or 25).
minimum spacing for terminal strips is 30 mm.
use 40 mm spacing for gages.

** Pressure Regulators :
PR45A-AA0A (Adjusting knob)
PR45A-AB0A (Slotted stem)
PR45A-AC0A (Locking stem)

- ○ A0 = without light
- ○ AA = with light (120V)
- ○ AB = with light (240V)
- ○ AD = with light (24V)
- ○ C0 = terminal strip
- ○ CA = terminal w/light (120V)
- ○ CB = terminal w/light (240V)
- ○ CD = terminal w/light (24V)

Menu

MAC

Series **45**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

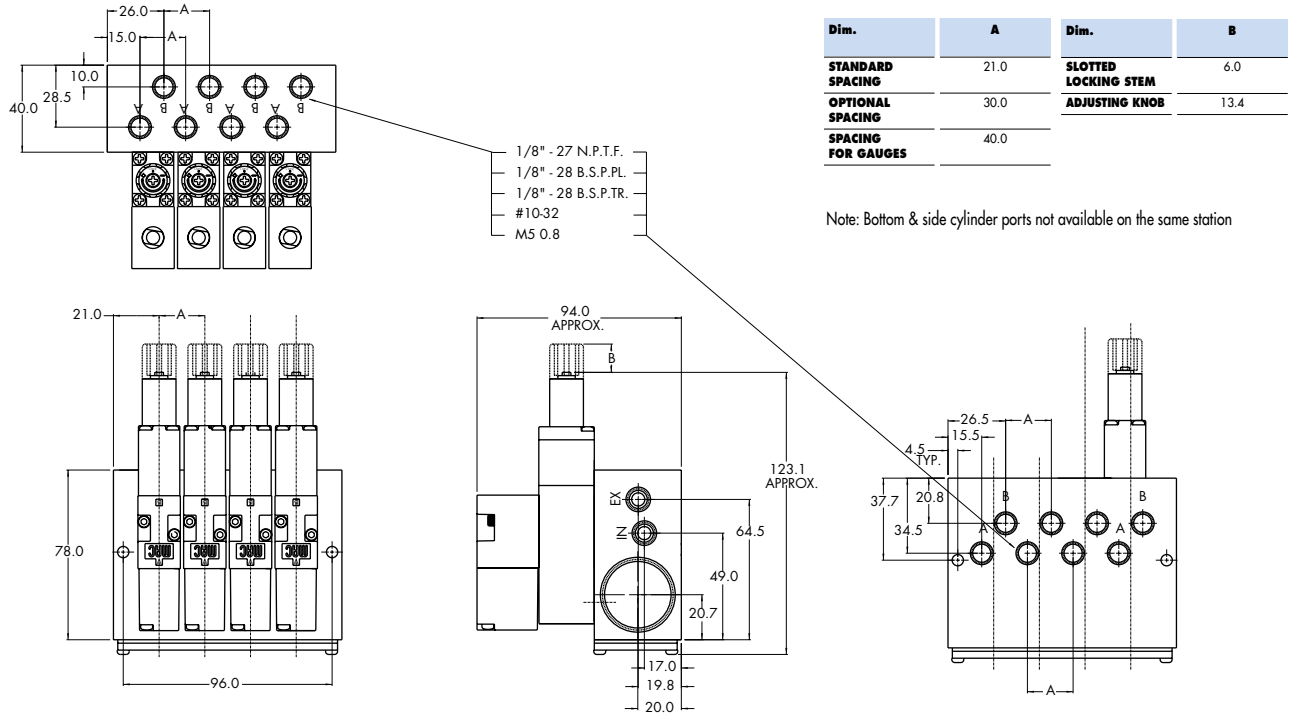
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



Dim.	A	Dim.	B
STANDARD SPACING	21.0	**SLOTTED LOCKING STEM**	6.0
OPTIONAL SPACING	30.0	**ADJUSTING KNOB**	13.4
SPACING FOR GAUGES	40.0		

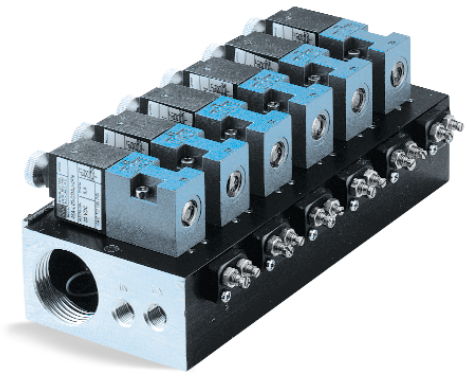
Note: Bottom & side cylinder ports not available on the same station

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	plug-in with F. C.

OPERATIONAL BENEFITS

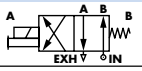
1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.



Reset

HOW TO ORDER 45A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING "PLUG-IN"

Port size (see base)	Single operator
	
Valve less base	○ 45A-L00-D*xx*J-*x*FM

SOLENOID OPERATOR ➤ D *xx* J- *x* FM*

xx	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

x	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR WITH FLOW CONTROLS ** ECD45A-xxxx-xx-xx

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	21	--------	○ ECD45A-006C-A0-*xx*
M5	21	--------	○ ECD45A-006D-A0-*xx*
1/8" BSPP	30	○ ECD45A-035C-A0-*xx*	--------
M5	30	○ ECD45A-035D-A0-*xx*	--------

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves mounted on base at the factory (add - 9 to the model number).
for multi-pin connector (9, 15 or 25).
minimum spacing for terminal strips is 30 mm.

- ○ A0 = without light
- ○ AA = with light (120V)
- ○ AB = with light (240V)
- ○ AD = with light (24V)
- ○ C0 = terminal strip
- ○ CA = terminal w/light (120V)
- ○ CB = terminal w/light (240V)
- ○ CD = terminal w/light (24V)

MAC

Series 45

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

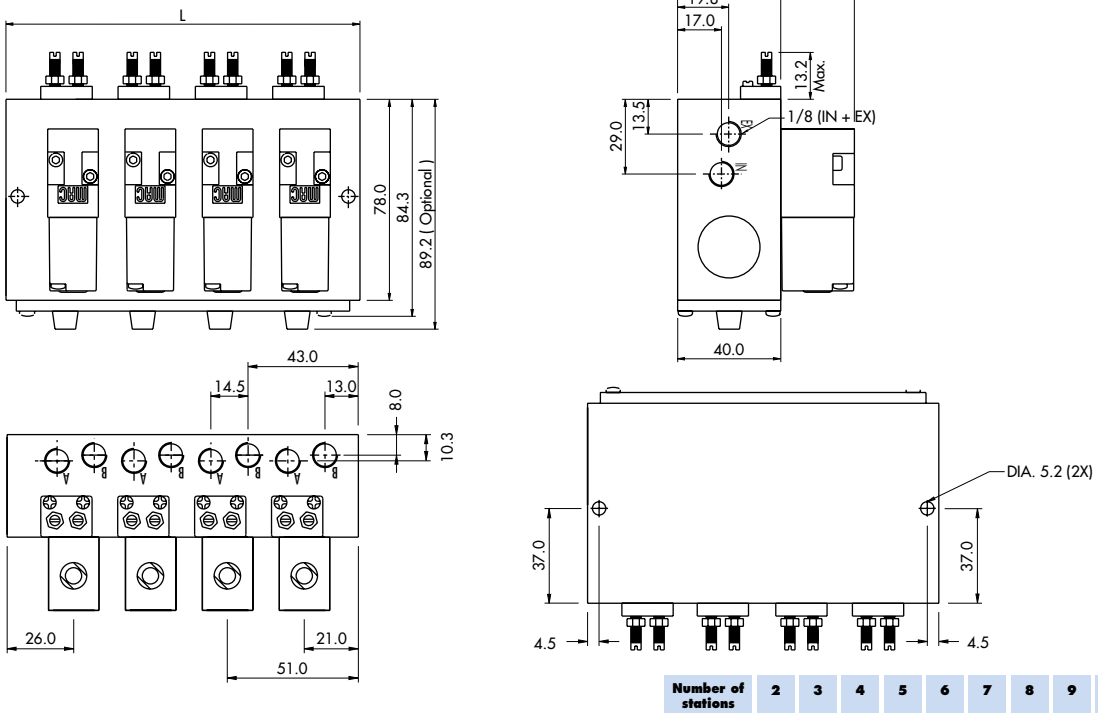
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



Number of stations	2	3	4	5	6	7	8	9	10
DIM. L	77.0	107.0	137.0	167.0	197.0	227.0	257.0	287.0	317.0

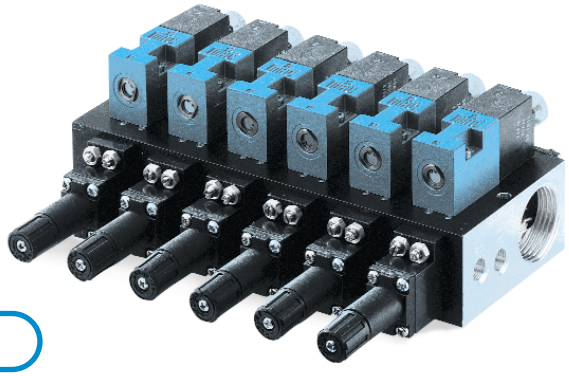
MAC

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	plug-in with Pr. Reg. and F. C.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

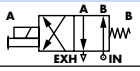


Reset

HOW TO ORDER

45A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING "PLUG-IN"

Port size (see base)	Single operator
	
Valve less base (w/o gage port)	○ 45A-L00-D*xx*J-*x*FM
Valve less base (w/ gage port)	○ 45A-M00-D*xx*J-*x*FM

SOLENOID OPERATOR ➤ D *xx* J- *x* FM*

xx	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

x	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

ECD45A-xxxx-xx-xx

HOW TO ORDER "PLUG-IN" CIRCUIT BAR WITH REGULATORS AND FLOW CONTROLS (TO BE ORDERED SEPARATELY) **

Port size	Spacing mm	Bottom cylinder ports
1/8" BSPP	21	○ ECD45A-007C-A0-*xx*
M5	21	○ ECD45A-007D-A0-*xx*
1/8" BSPP	30	○ ECD45A-037C-C0-*xx*
M5	30	○ ECD45A-037D-C0-*xx*

Number of stations (03=3 stations) ☐

Note : ☐ clic for valves and regulators mounted to circuit bar at the factory (add - 9 to the model number).
for multi-pin connector (9, 15 or 25).
minimum spacing for terminal strips is 30 mm.

Pressure regulators and flow controls:
45A-001 (Slotted stem)
45A-002 (Adjusting knob)
45A-003 (Locking stem)

○ A0 = without light
○ AA = with light (120V)
○ AB = with light (240V)
○ AD = with light (24V)
○ C0 = terminal strip
○ CA = terminal w/light (120V)
○ CB = terminal w/light (240V)
○ CD = terminal w/light (24V)

Series **45**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

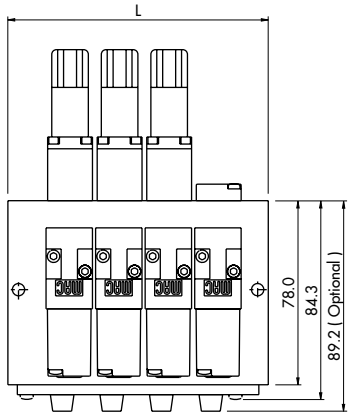
Spare parts :

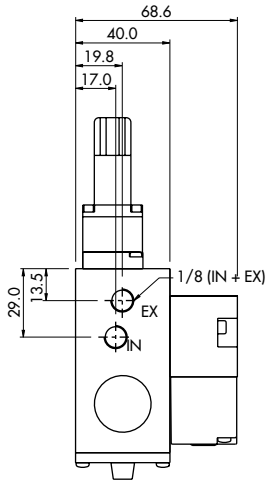
- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

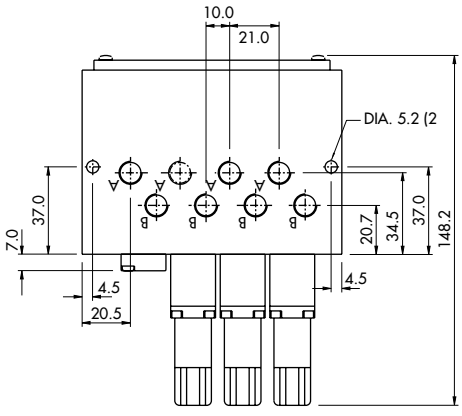
Options :

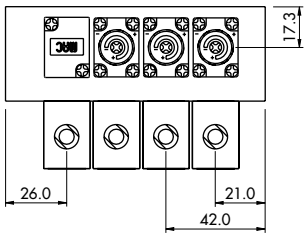
- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS









Number of stations	2	3	4	5	6	7	8	9	10
DIM. L	68.0	89.0	110.0	131.0	152.0	173.0	194.0	215.0	236.0

Consult "Precautions" before use, installation or service of MAC Valves.

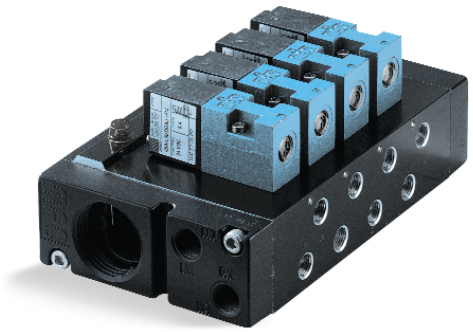
MAC

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	plug-in with integral terminal strip

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

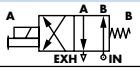


Reset

HOW TO ORDER

45A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING "PLUG-IN"

Single operator	
	
○ 45A-L00-D*XX*J-*x*FM	Valve less base

SOLENOID OPERATOR ➤ D *XX* J- *X* FM *

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR**

ECE45A-xxxx-xx-xx

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	26	○ ECE45A-011C-C0-*xx*	○ ECE45A-012C-C0-*xx*
M5	26	○ ECE45A-011D-C0-*xx*	○ ECE45A-012D-C0-*xx*

Number of stations (03=3 stations) ☐
End plate kit required : M-45017
Note : ☐ clic for valves mounted on circuit bar at the factory (add - 9 to the model number).

○ C0 = terminal strip
○ CA = terminal strip w/light (120V)
○ CB = terminal strip w/light (240V)
○ CD = terminal strip w/light (24V)

Series **45**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

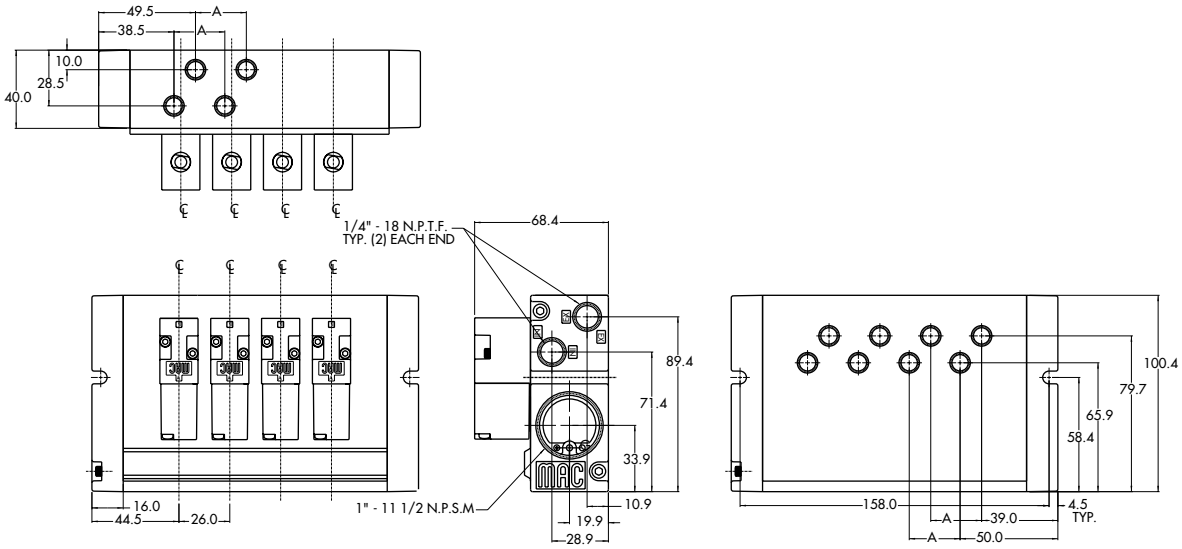
Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options : • NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



Note: Bottom & side cylinder ports not available on the same station

Consult "Precautions" before use, installation or service of MAC Valves.

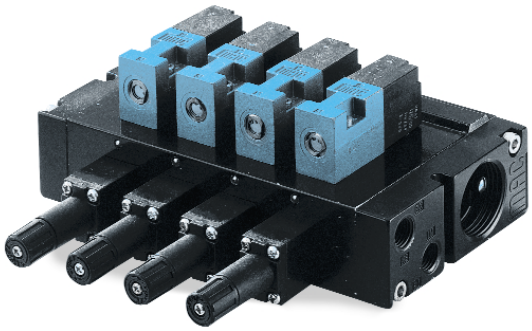
MAC

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	plug-in with integral terminal strip and side Pr. Reg.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

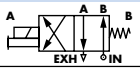


Reset

HOW TO ORDER

45A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR "PLUG-IN" CIRCUIT BAR

Single operator	
	
○ 45A-L00-D*XX*J-*x*FM	Valve less base w/o gage port
○ 45A-M00-D*XX*J-*x*FM	Valve less base w/ gage port

SOLENOID OPERATOR ➤ D *XX* J- *X* FM *

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

ECE45A-xxxx-xx-xx

HOW TO ORDER CIRCUIT BAR WITH PRESSURE REGULATORS (TO BE ORDERED SEPARATELY) **

Port size	Spacing mm	Bottom cylinder ports
1/8" BSPP	26	○ ECE45A-014C-C0-*xx*
M5	26	○ ECE45A-014D-C0-*xx*
1/8" BSPP	40	○ ECE45A-024C-C0-*xx*
M5	40	○ ECE45A-024D-C0-*xx*

Number of stations (03=3 stations) ☐
End plate kit required : M-45017
Note : ☐ clic for valves and regulators mounted to circuit bar at the factory (add - 9 to the model number). Use 40 mm spacing for valves w/ gage port.

** Pressure Regulators :
35A-00M (Adjusting knob)
35A-00L (Slotted stem)
35A-00U (Locking stem)

* ○ C0 = terminal strip
○ CA = terminal strip w/light (120V)
○ CB = terminal strip w/light (240V)
○ CD = terminal strip w/light (24V)

Series **45**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

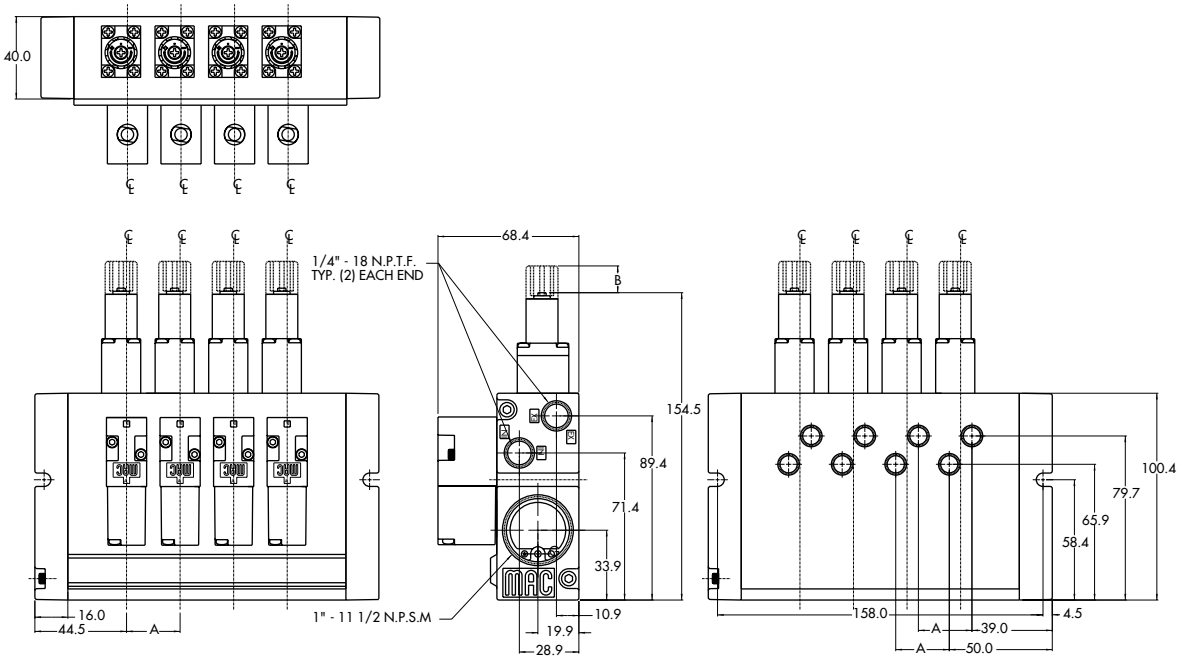
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



Dim.	B	Dim.	A
SLOTTED LOCKING STEM	6.0	STANDARD SPACING	26.0
ADJUSTING KNOB	13.4	SPACING FOR GAUGES	40.0

Consult "Precautions" before use, installation or service of MAC Valves.

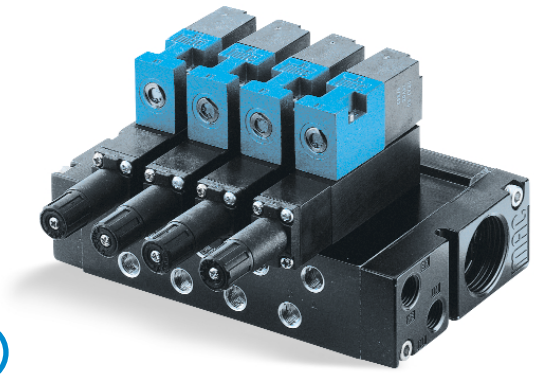
MAC

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	plug-in with integral terminal strip and sandwich Pr. Reg.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.



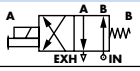
Reset

HOW TO ORDER

45A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING "PLUG-IN"

Single operator



○ 45A-L00-D*XX*J-*x*FM	Valve w/o gage port
○ 45A-M00-D*XX*J-*x*FM	Valve w/ gage port

SOLENOID OPERATOR ➤ D *XX* J- *X* FM *

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

ECE45A-xxxx-xx-xx

HOW TO ORDER "PLUG-IN" CIRCUIT BAR WITH SANDWICH REGULATORS (TO BE ORDERED SEPARATELY) **

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	26	○ ECE45A-011C-C0-*xx*	○ ECE45A-012C-C0-*xx*
M5	26	○ ECE45A-011D-C0-*xx*	○ ECE45A-012D-C0-*xx*
1/8" BSPP	40	○ ECE45A-021C-C0-*xx*	○ ECE45A-022C-C0-*xx*
M5	40	○ ECE45A-021D-C0-*xx*	○ ECE45A-022D-C0-*xx*

Number of stations (03=3 stations) ☐
End plate kit required : M-45017
Note : ☐ clic for valves and regulators mounted to circuit bar at the factory (add - 9 to the model number).
Use 40 mm spacing for valves w/ gage port.

** Pressure Regulators :
PR45A-AA0A (Adjusting knob)
PR45A-AB0A (Slotted stem)
PR45A-AC0A (Locking stem)

* C0 = terminal strip
CA = terminal strip w/light (120V)
CB = terminal strip w/light (240V)
CD = terminal strip w/light (24V)

Menu

MAC

Series **45**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

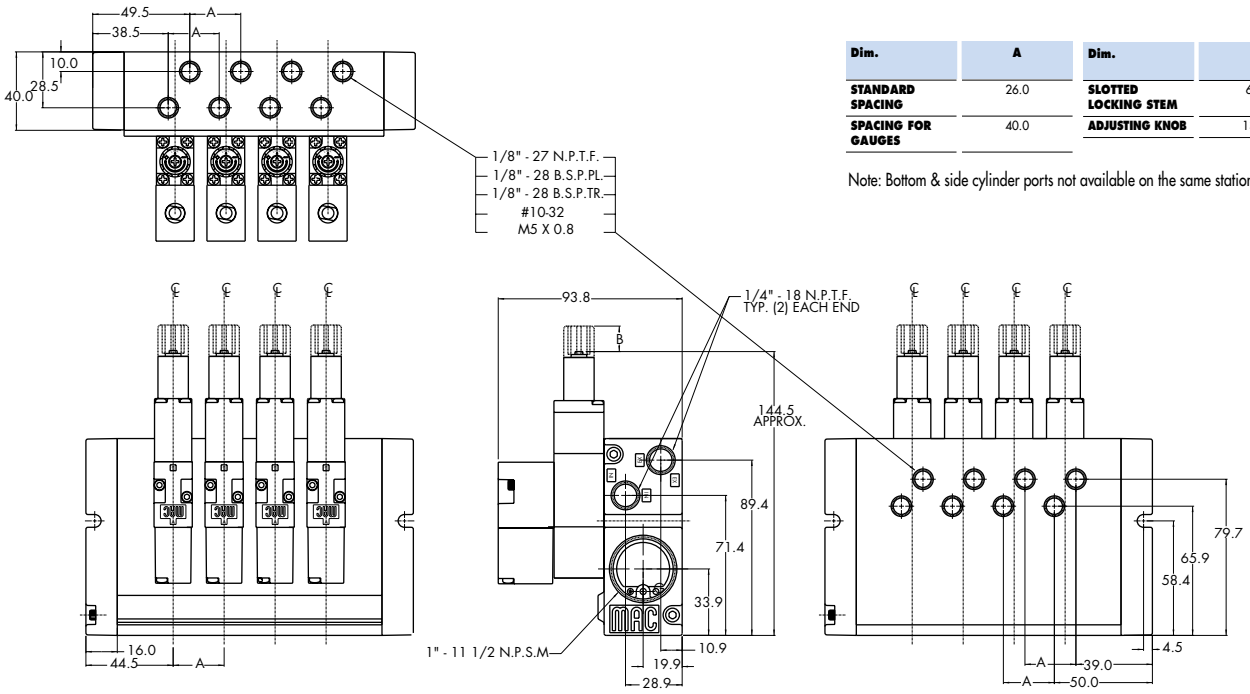
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



Dim.	A	Dim.	B
STANDARD SPACING	26.0	**SLOTTED LOCKING STEM**	6.0
SPACING FOR GAUGES	40.0	**ADJUSTING KNOB**	13.4

Note: Bottom & side cylinder ports not available on the same station

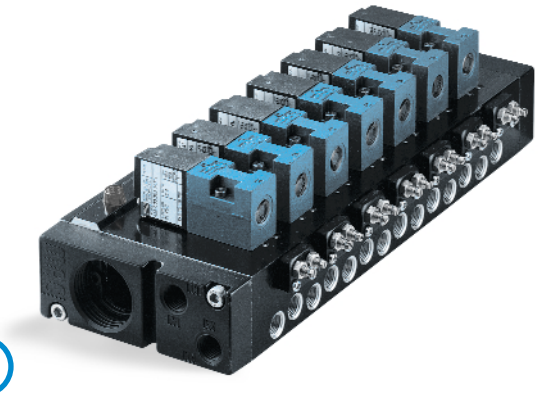
MAC

Series **45**

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	plug-in with integral terminal strip with F. C.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

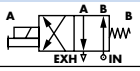


Reset

HOW TO ORDER

45A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING "PLUG-IN"

Single operator	
	
○ 45A-L00-D*XX*J-*X*FM	Valve less base

SOLENOID OPERATOR ➤ D *XX* J- *X* FM *

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

HOW TO ORDER "PLUG-IN" CIRCUIT BAR WITH FLOW CONTROLS **

ECE45A-xxxx-xx-xx

Port size	Spacing mm	Side cylinder ports	Bottom cylinder ports
1/8" BSPP	26	--------	○ ECE45A-016C-C0-*XX*
M5	26	--------	○ ECE45A-016D-C0-*XX*
1/8" BSPP	30	○ ECE45A-035C-C0-*XX*	--------
M5	30	○ ECE45A-035D-C0-*XX*	--------

Number of stations (03=3 stations) ☐
End plate kit required : M-45017
Note : ☐ clic for valves and regulators mounted to circuit bar at the factory (add - 9 to the model number).

○ C0 = terminal strip
○ CA = terminal strip w/light (120V)
○ CB = terminal strip w/light (240V)
○ CD = terminal strip w/light (24V)

Series **45**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

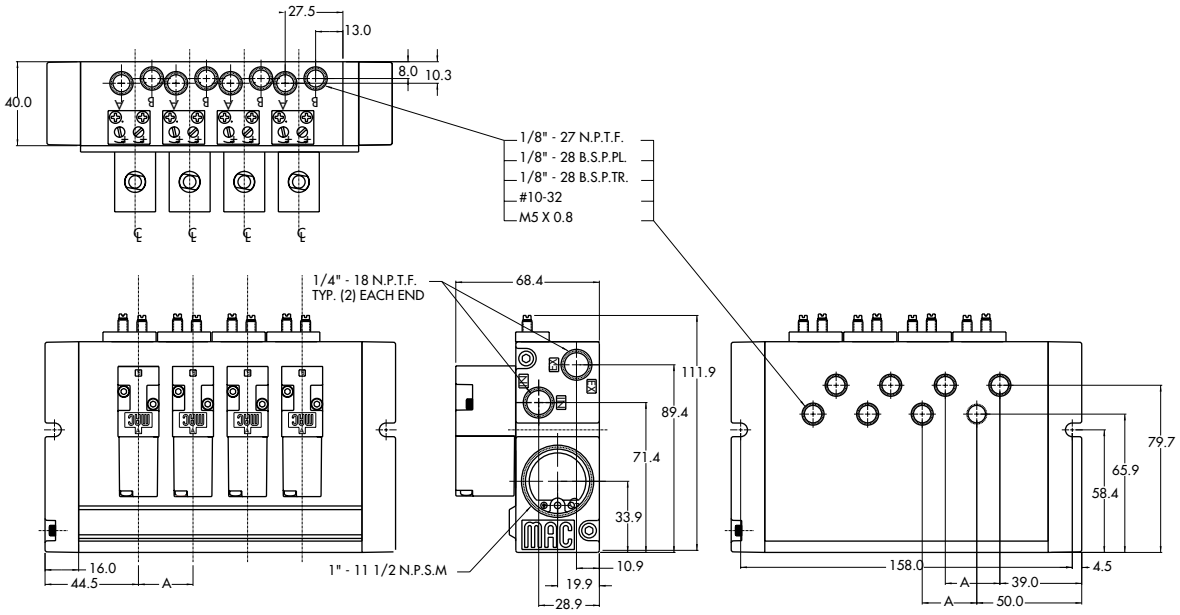
Spare parts :

- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS



Dim.	A
STANDARD SPACING	26.0
OPTIONAL SPACING	30.0

Note: Bottom & side cylinder ports not available on the same station

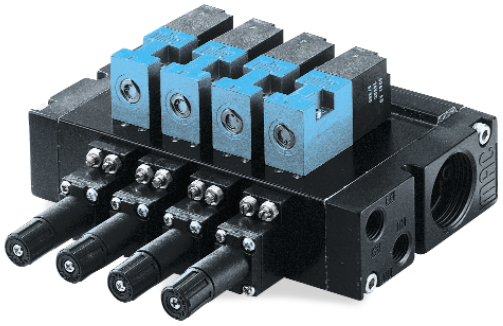
MAC

Series 45

Function	Port size	Flow (Max)	Circuit bar mounting
4/2	**1/8" BSPP - M5**	**100 NL/min**	plug-in with integral terminal strip with Pr. Reg. and F. C.

OPERATIONAL BENEFITS

1. Balanced poppet, immune to variations of pressure.
2. Short stroke with high flow.
3. The patented solenoid develops high shifting forces.
4. Powerful return spring.
5. Manual operator standard on all valves.
6. Burn-out proof solenoid on AC service.

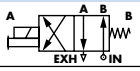


Reset

HOW TO ORDER

45A-xxx-DxxJ-xFM

HOW TO ORDER VALVE FOR CIRCUIT BAR MOUNTING "PLUG-IN"

Single operator	
	
○ 45A-L00-D*XX*J-*x*FM	Valve less base
○ 45A-M00-D*XX*J-*x*FM	Valve less base w/ gage port

SOLENOID OPERATOR ➤ D *XX* J- *X* FM *

XX	Voltage
○ *AA*	120/60, 110/50
○ *AB*	240/60, 220/50
○ *AC*	24/60, 24/50
○ *FB*	24VDC (1.8 W)
○ *DA*	24VDC (5.4 W)
○ *DF*	24VDC (12.7 W)
○ *xx*	Other Options

X	Manual operator
○ *1*	Non-locking Recessed
○ *2*	Locking Recessed
○ *x*	Other Options

ECE45A-xxxx-xx-xx

HOW TO ORDER "PLUG-IN" CIRCUIT BAR WITH PRESSURE AND FLOW CONTROLS (TO BE ORDERED SEPARATELY) **

Port size	Spacing mm	Bottom cylinder ports
1/8" BSPP	26	○ ECE45A-017C-C0-*xx*
M5	26	○ ECE45A-017D-C0-*xx*
1/8" BSPP	40	○ ECE45A-027C-C0-*xx*
M5	40	○ ECE45A-027D-C0-*xx*

Number of stations (03=3 stations) ☐
End plate kit required : M-45017
Note : ☐ clic for valves and regulators mounted to circuit bar at the factory (add - 9 to the model number). Use 40 mm spacing for valves w/ gage port.

** Pressure Regulators :
45A-001 (Slotted stem)
45A-002 (Adjusting knob)
45A-003 (Locking stem)

* C0 = terminal strip
CA = terminal strip w/light (120V)
CB = terminal strip w/light (240V)
CD = terminal strip w/light (24V)

Menu

MAC

Series **45**

100% OF PRODUCTION TESTED 100%

WARRANTY 18 MONTHS

TECHNICAL DATA

Fluid :	Compressed air, vacuum, inert gases		
Pressure range :	Vacuum to 8 BAR		
Lubrication :	Not required, if used select a medium aniline point lubricant (between 80°C and 100°C)		
Filtration :	40 µ		
Temperature range :	0°F to 120°F (-18°C to 50°C)		
Orifice :	2 mm		
Flow (at 6 bar, ΔP=1bar) :	1.8 W : 80 NL/min, 5.4 W : 100 NL/min		
Leak rate :	50 cm^3/min		
Coil :	General purpose class A, continuous duty, encapsulated		
Voltage range :	-15% to +10% of nominal voltage		
Protection :	Nema 4		
Power :	120 VAC/60 = Inrush : 10.9 VA (0.09 AMPS)	Holding : 7. 7VA (0.06 AMPS)	
	DC VOLTS = 1.8 W to 12.7 W		
Response times :	24 VDC (5.4W)	Energize : 6 ms	De-energize : 2 ms
	120 VAC	Energize : 3-8 ms	De-energize : 2-7 ms

Spare parts :

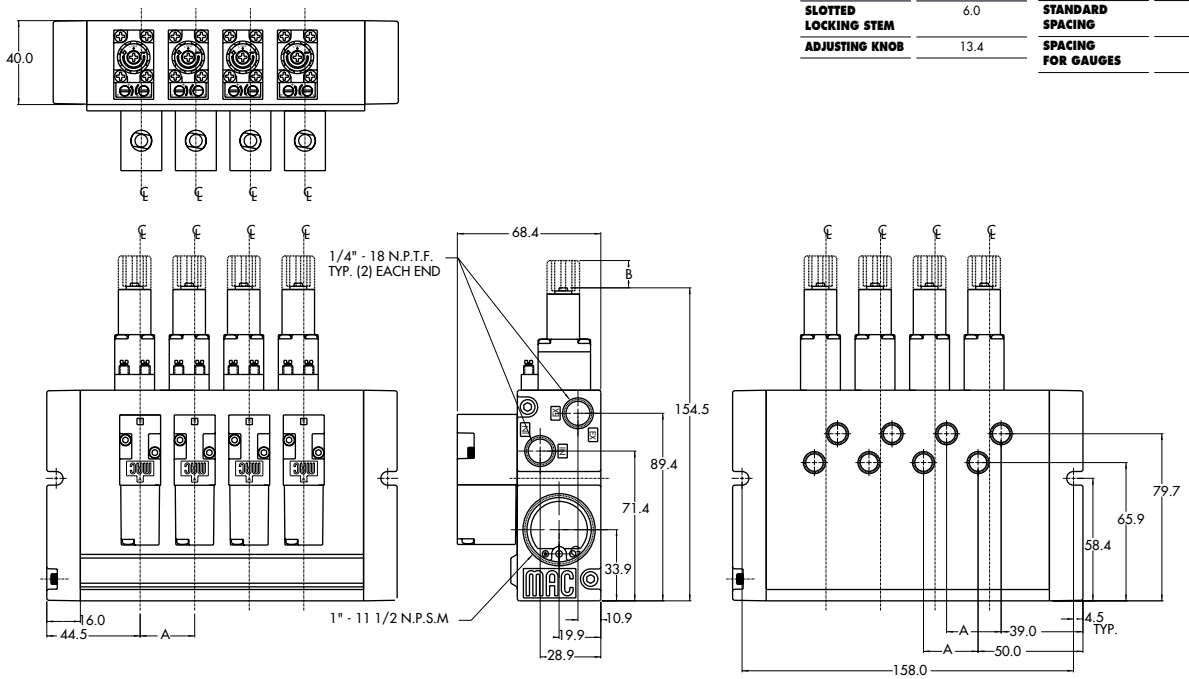
- Solenoid operator (power ≥ 5.4 W) : DXXJ-XFM, including mounting screws 35013.
- Seal between solenoid and valve body : 16402. • Seal between base and valve : 16453.
- Valve mounting screw (x2) : 35020. • Blanking plate valve : M-45010. • Blanking plate regulator : M-35005.

Options :

- NPTF threads. • High flow up to 140 NL/min, according to wattage. • Isolation of inlet and/or exhaust.

DIMENSIONS

Dim.	B	Dim.	A
SLOTTED LOCKING STEM	6.0	**STANDARD SPACING**	26.0
ADJUSTING KNOB	13.4	**SPACING FOR GAUGES**	40.0



Section 2 Options

Codification table for voltages / Wire length / Manual operators / Electrical connections

VALVE CODE ➤ $-D\underset{1}{XX}\,\underset{2}{X}\,-\,\underset{3}{X}\,\underset{4}{XX}$

OPTIONS AVAILABLE FOR
- Solenoid valves 35 & 45 Series

OPTIONS

Back

1. VOLTAGE

-D XX X -X XX	VOLTAGE
AD	24/60
AE	200/60
AF	240/50
AG	100/50, 100/60, 110/60
DB	12 VDC (5.4 W)
DC	12 VDC (7.5 W)
DD	24 VDC (7.3 W)
DE	12 VDC (12.7 W) CLSF
DK	110 VDC (5.8 W)
DL	64 VDC (6.0 W)
DM	36 VDC (5.8 W)
DN	6 VDC (6.0 W)
DP	48 VDC (5.8 W)
DU	24 VDC (6.0 W)
EA	12 VDC (6.0 W)
FA	12 VDC (1.8 W)
FE	12 VDC (2.4 W)
FF	24 VDC (2.4 W)

2. WIRE LENGTH

-D XX X -X XX	WIRE LENGTH
B	60 cm
C	90 cm
D	120 cm
E	180 cm
F	240 cm

3. MANUAL OPERATOR

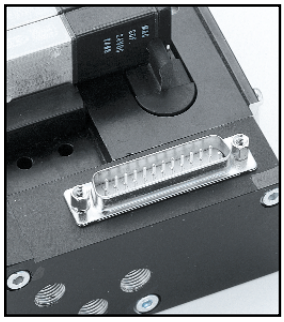
-D XX X -X XX	MANUAL OPERATOR
0	No operator
1	Non-locking recessed
2	Locking recessed
3	Non-locking extended
4	Locking extended

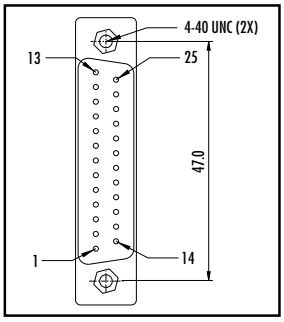
4. ELECTRICAL CONNECTION

-D XX X -X XX	ELECTRICAL CONNECTION
BA	Flying leads
BK	BA with protection diode
BL	BA with protection varistor
CA	1/2" NPS conduit
*FN	Plug-in with diode
*FP	Plug-in with M.O.V.
JB	Rectangular connector
JD	Rectangular connector with light
JM	Rectangular connector, male only
KA	Square connector
KB	Square connector with protection diode
KC	Square connector with protection varistor
KD	Square connector with light
KE	Square connector with light and protection diode
KF	Square connector with light and protection varistor
KJ	Square connector (male only)
KK	Square connector with protection diode (male only)
KL	Square connector with protection varistor (male only)
TA	Dual tabs
TB	TA with protection diode
TD	TA with light
TE	TA with light and protection diode
TJ	Dual tabs (male only)
TK	TJ with protection diode
TM	TJ with light
TN	TJ with light and protection diode

* For use with the ECD and ECE style circuit bars.

Connector SUB_D 25 (option ZZZY = SUBY ; Y = cable length)

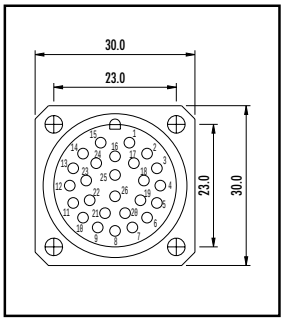




TECHNICAL DATA

- Type «SUB_D»
- Number of contacts : 25
- Solder termination (Dia. 0.6 mm/0.14 mm²/26-22 AWG)
- Operating current 5 A/contact
- Rated voltage 125 V~
- Temp. range –40° to +125°C
- Insulation resistance ≥ 10^{10} Ω
- Protection class IP40 (DIN 40050)
- Number of solenoids : 20 max.
- Max. 24 V=/5.4 W per solenoid
- 5 common wires
- Female plug supplied with circuit bar

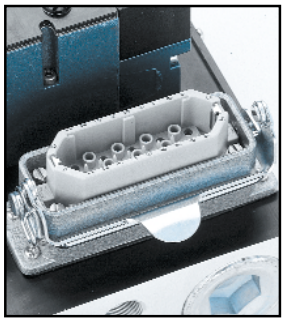
Connector RND (option ZZZY = RNDY ; Y = cable length)

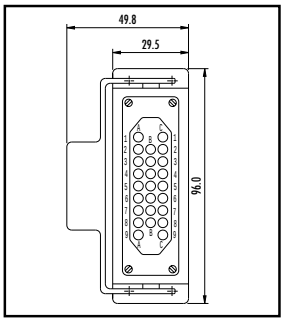


TECHNICAL DATA

- Type «Round connector»
- Number of contacts : 26
- Solder termination (Dia. 1 mm/1 mm²/17 AWG)
- Operating current 7.5 A/contact
- Rated voltage 250 V~
- Insulation resistance ≥ 10^{8} Ω
- Cable entry PG16
- Temp. range –40° to +125°C
- Protection class IP65 (DIN 40050)
- Number of solenoids : 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector HDT (option ZZZY = HDTY ; Y = cable length)

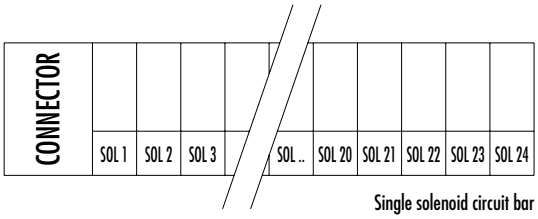




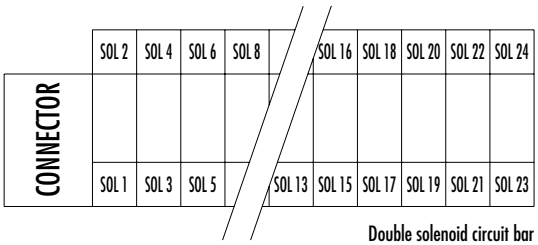
TECHNICAL DATA

- Type «Heavy duty»
- Number of contacts : 25
- Solder termination (Dia. 1.4 mm/0.75 mm²/18 AWG)
- Operating current 10 A/contact
- Rated voltage 250 V~
- Insulation resistance ≥ 10^{10} Ω
- Cable entry PG16
- Temp. range –40° to +125°C
- Protection class IP65 (DIN 40050)
- Number of solenoids : 24 max.
- 1 common and 1 ground
- All voltages
- Female plug supplied with circuit bar

Connector termination details



Single solenoid circuit bar

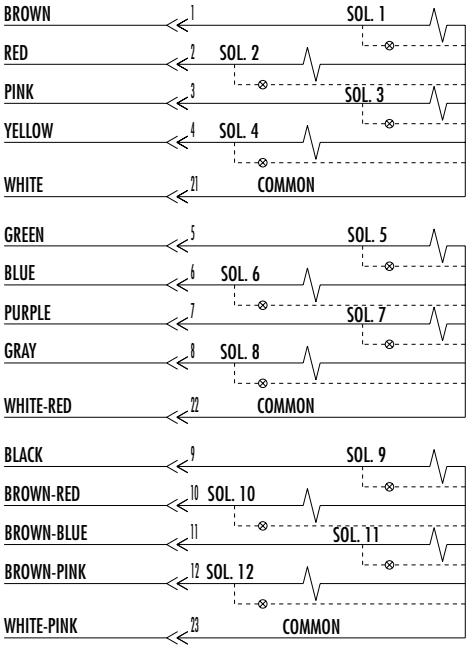


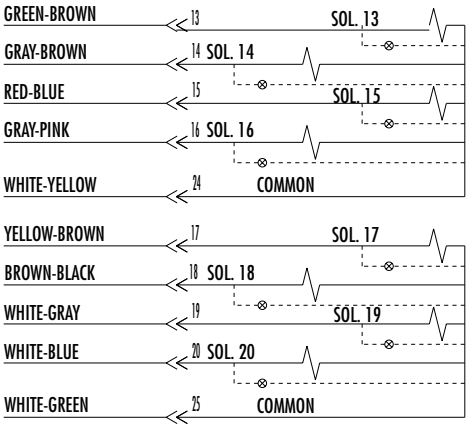
Double solenoid circuit bar

Connector SUB_D25 (option ZZZY = SUBY ; Y = cable length)

TECHNICAL DATA PREWIRED CABLE

- Type : LIYY -0.14 mm²
- Dia. ca. 9.3 mm
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 250 V~
- PVC core insulation and sheath

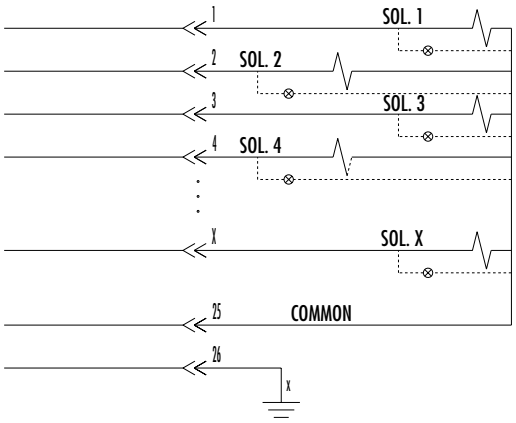




Connector RND [option ZZZY = SNDY ; Y = cable length]

TECHNICAL DATA PREWIRED CABLE

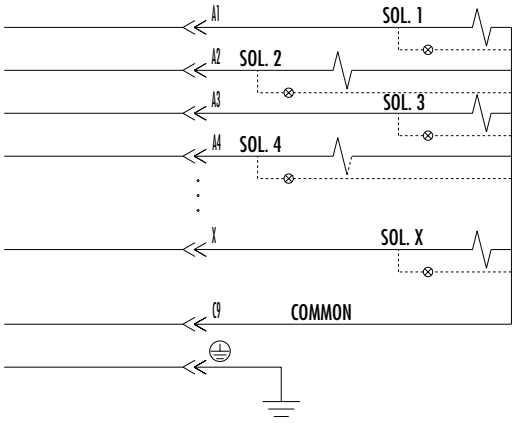
- Type : LIY(C)Y -0.50 mm²
- Dia. ca. 10.8 mm (12 core); 12.9 mm (18 core); 16.0 mm (32 core)
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 500 V~
- PVC core insulation and sheath
- Tinned copper wire braid



Connector HDT [option ZZZY = HDTY ; Y = cable length]

TECHNICAL DATA PREWIRED CABLE

- Type : LIY(C)Y -0.75 mm²
- Dia. ca. 12.0 mm (12 core); 13.5 mm (18 core); 18.0 mm (32 core)
- Insulation resistance : 20 MΩ for 1000 meter
- Temp. range -5° to +80°C
- Rated voltage : 500 V~
- PVC core insulation and sheath
- Tinned copper wire braid



PRECAUTIONS CONCERNING THE APPLICATION, INSTALLATION AND SERVICE OF MAC VALVES

The precautions below are important to be read and understood before designing into a system any MAC valve, and before installing or servicing any MAC valve. Improper use, installation or servicing of any MAC valve in some systems could create a hazard to personnel or equipment.

APPLICATION PRECAUTIONS :

INDUSTRIAL USE -

MAC valves are intended for use in industrial pneumatic and/or vacuum systems. They are not intended for consumer use or service. They are general purpose industrial valves with literally thousands of different applications in industrial systems. These products are not inherently dangerous, but they are only a component of an overall system. The system in which they are used must provide adequate safeguards to prevent injury or damage in the event failure occurs, whether it be failure of switches, regulators, cylinders, valves or any other component.

POWER PRESSES -

MAC valves are not designed nor intended to be used to operate and/or control the operation of clutch and/or brake systems on power presses. There are special products on the market for such use.

2-POSITION VALVES -

Some MAC valves are 2-position, 4-way valves. When air is supplied to the inlet port(s) of these valves, there will always be a flow path from the inlet to one of the outlets regardless of which of the two positions the valve is situated. Therefore, if pressurized air retained in the system would present a hazard in the application or servicing of the valve or system, a separate method in the system must be provided to remove the trapped air.

3- POSITION VALVES-

Some MAC valves are 3-position, 4-way valves. These valves are either double solenoid or double remote air operated.
If either of the two operators is in control, air supplied to the inlet port(s) will pass through the valve to one of the outlets as on 2-position, 4-way valves. However, if neither operator is in control, the valve moves to a center position. Listed below are the various center position functions :

A. CLOSED CENTER-

With this type valve, when in the center position all ports are blocked (inlets and exhausts) meaning the air at both outlet ports is trapped. If trapping the air in both outlet ports would present a hazard in the application or servicing, a separate method in the system must be provided to remove the trapped air or this type valve should not be used.

B. OPEN CENTER-

With this type valve, when in the center position, the inlet port(s) is blocked and the two outlet ports are open to the exhaust port(s) of the valve. If having no air in either outlet port would present a hazard in the application or servicing, this type valve should not be used.

C. PRESSURE CENTER-

With this type valve, when in the center position, the inlet port(s) is connected to both outlet ports of the valve. If having pressurized air to either or both outlet ports would present a hazard in the application or servicing of the valve or system, a separate method in the system must be
provided to remove the retained air.

OPERATING SPECIFICATIONS -

MAC valves are to be installed only on applications that meet all operating specifications described in the MAC catalog for the valve.

MANUAL OPERATORS-

Most MAC valves can be ordered with manual operators. Manual operators when depressed, are designed to shift the valve to the same position as would the corresponding solenoid or remote air pilot operator if it were activated. Care must be taken to order a type, if any, that will be safe for the physical location of the manual operator in the system. Accidental activation of a manual operator could create a dangerous situation. If intentional or accidental operation of a valve by a manual operator could create a dangerous situation then the "no operator" option should be used.

REMOTE AIR OPERATED VALVES

Pilot valves supplying signal pressure to remote air operated valves should be 3-way valves with adequate supply and exhaust capacity to provide positive pressurizing and exhausting of the pilot supply line. Pilot lines should be open to exhaust when valves are deenergized.

INSTALLATION AND SERVICE PRECAUTIONS :

A. Do not install or service MAC valves without first making sure both the air and electrical power to the machine are off and that all air has been completely bled from the system.

B. MAC valves should only be installed and/or serviced by qualified, knowledgeable personnel who understand how the specific valve is to be pneumatically piped and electrically connected (where applicable). Flow paths through the valve are shown in the catalog and on the valve by use of ANSI or ISO type standard and graphic symbols. Do not install unless these symbols and the valve functions and operations are thoroughly understood.

C. Before service, maintenance, repair or cleaning, consult local distributor or factory for Parts & Operation Sheet and information on proper cleaning and lubrication agents. Do not subject MAC valves' parts to any foreign substance including lubricants and cleaning agents not specifically recommended by MAC valves, Inc.

D. MAC valves are never to be stepped on while working on a machine. Damage to the valve, or lines to the valve (either air or electrical lines) or accidental activating of a manual operator on the valve could result in a dangerous condition.

WARNING :

Under no circumstances are Mac valves to be used in any application where failure of the valve to operate as intended could jeopardize the safety of the operator or any other person.
- Do not operate outside of pressure range listed on valve label or outside of designated temperature range.
- Air supply must be clean. Contamination of valve can affect proper operation.
- Before attempting to repair, adjust or clean valve, consult catalog, parts & operation sheet, or factory for proper maintenance procedures, lubrication, and cleaning agents. Never attempt to repair or perform other maintenance with air pressure to valve.
- If airline lubrication is used, consult catalog, parts & operation sheet, or factory for recommended lubricants.

LIMITATION OF GUARANTEE

This Guarantee is limited to the replacement or rebuilding of any valve which should fail to operate properly. Valves, under the MAC Guarantee, must be returned (with or without bases) transportation prepaid and received at our factory within the Guarantee period. They will be returned to the customer at the expense of MAC Valves, Inc., and will carry the same guarantee as provided under the Flat Rate Rebuild Program.

DISCLAIMER OF GUARANTEE

No claims for labor, material, time, damage, or transportation are allowable nor will any valve be replaced or rebuilt under this guarantee which has been damaged by the purchaser not in the normal course of its use and maintenance during the warranty period. The guarantee does not apply to loss or damage caused by fire, theft, riot, explosion, labor dispute, act of God, or other causes beyond the control of MAC Valves,Inc. MAC Valves, Inc. shall in no event be liable for remote, special or consequential damages under the MAC Guarantee, nor under any implied warranties, including the implied warranty of merchantability.

The above Guarantee is our manner of extending the engineering and service resources of the MAC Valves, Inc. organization to assure our customer long, and continued satisfaction.